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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,098	09/04/2001	Masakazu Ogasawara	041514-5143	1762

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EXAMINER	
PATEL, GAUTAM	
ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/944,098	OGASAWARA ET AL.	
	Examiner	Art Unit	
	Gautam R. Patel	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-40* is/are pending in the application.

4a) Of the above claim(s) *24-28,31-34 and 38-40* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-23,29,30 and 35-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 21-40 are pending for the examination.

Election/Restriction

2. Claims 24-28, 31-34 and 38-40 are withdrawn from further consideration by the examiner, 37 C.F.R. § 1.142(b) as being drawn to figs. Other than 6-8. Election was made with traverse of claims 21-23 and 29-37.

Applicant's election with traverse of group "a" in Paper dated 10-25-04 is acknowledged. The traversal is on the ground(s) that "The Examiner has provided no rationale for the restriction requirement and therefore the restriction is improper and should be withdrawn for at least this reason. In addition, Applicants respectfully submit that the species (a. – g.) are not patentably distinct as alleged and therefore the restriction requirement is improper. Evidence to that effect is provided in the application as originally filed, for example, at pages 37-40 and figures 17-21 second through fourth embodiments of the focus error detecting optical element with obvious variants with respect to one another.".

This is not found persuasive because of the following reasons:

FIRST: As to providing no rationale, it should be pointed out that the Examiner does not need to show separate classification or field of search for election of the species requirement. See 803.00 and 808.01(a); M.P.E.P.

SECOND: As to why the invention as claimed are distinct. It should be pointed out the Applicants themselves have pointed out that there are "Other Embodiments" [page 37, third paragraph]. Page 38 shows third embodiments etc. In other words it is NOT the Examiner's opinion that these are distinct embodiments it is Applicants opinion and to which the Examiner agrees based on the Applicant's logic.

THIRD: As to other embodiments being obvious variation of each other:

a. It should be pointed out that cylindrical lens and prism are NOT one and the same thing.

b. And if indeed these are obvious variations of the first embodiment, as *now* claimed by the Applicants, please consider the rest of the claims being rejected based on the same logic that is being applied to first embodiment.

As to the argument regarding claim 21 being generic. The examiner agrees the claim 21 may be considered generic in its present form and will be treated as such.

NOTE: It seems some typographical error was made in selecting the first embodiment. Claims 31-34 clearly belongs to embodiment two, they are also removed from the consideration. Therefore action on properly elected claims 21-23, 29-30 and 35-37 follows.

The requirement is still deemed proper and is therefore made **FINAL**.

Claim Rejections - 35 U.S.C. § 103

3. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 21, 23 and 29-30 and 35-37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoue et al., US. patent 6,212,150 (hereafter Inoue) in view of Sugiura et al., US. patent 6,445,668 (hereafter Sugiura).

As to claim 21, Inoue discloses the invention as claimed, an optical pickup device [see Figs. 1-9, especially 1 and 3], including a focus error detecting optical element and a photodetector comprising:

a focus error detecting optical element [fig. 1, unit 6 and fig. 3] having four sections of first through fourth quadrants quadrisected [fig. 3, lines 61 and 6m] around the center of an optical path of the return light along two division lines extending corresponding to a track extending direction and a direction perpendicular [line 6m] to the track extending direction respectively, the four sections disposed on a plane substantially perpendicular to the optical path of the return light, wherein the four sections provide astigmatism for the return light passing through the sections contiguous to said division lines [col. 10, line 60 to col. 11, line 6].

Inoue discloses all of the above elements, including a focus error detecting optical element and a photodetector with four or more light receiving elements. Inoue does not specifically discloses that direction are rotated 90^0 from each other [even though that is what is normally and inherently happens].

However, it is well known in the art that most section providing astigmatism [which Inoue shows that he provides] directions are rotated by 90^0.

Also Sugiura clearly discloses:

the four sections provide astigmatism for the return light passing through the sections contiguous to said division lines so that the astigmatism in directions are rotated by 90^0 from each other about the optical path, while separating the return light into at least four paths; and

a photodetector which has at least four spaced light receiving elements for receiving the separated return light each of which has contour lines corresponding to said division lines and is comprised of two light receiving areas divided by a bisect line extending substantially in parallel with one of the contour lines, wherein said bisect line of said spaced light receiving element extends corresponding to the direction perpendicular to the track extending direction [col. 6, lines 28-50].

Both Inoue and Sugiura are disclosing astigmatism generating devices in an optical disk environment. Both shows focus error detection and corresponding photodetectors.

One of ordinary skill in the art at the time of invention would have realized that in the system of Inoue tracking error signal ay interfere with the focus error signal and it would have to be reduced.

Therefore, it would have been obvious to have used a four segment photodetector in the system of Inoue as taught by Sugiura because one would be motivated to reduce interference of the tracking signal with the focus error signal and make system more stable and error free [col. 1, lines 44-49; Sugiura].

4. Claim 22 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoue and Sugiura as applied to claim 21 above, and further in view of Oohchida et al., US. patent 6,584,060 (hereafter Oohchida).

As to claim 2 Inoue and Sugiura discloses all of the above elements, including a focus error detecting optical element. Combination does not specifically discloses type of the focus error detecting optical element that is being used in his system i.e. it is a blazed quadrant hologram element to the extent claimed.

However, blazed elements are well known in the art for a long time.

Also, Oohchida clearly discloses:

the focus error detecting optical element is a blazed quadrant hologram element [col. 18, lines 35-53.

One of ordinary skill in the art at the time of invention would have realized that the increasing the S/N ration is a good parameter to have in the system of Inoue and Sugiura.

Therefore, it would have been obvious to have used a blazed quadrant hologram element in the system of Inoue and Sugiura as taught by Oohchida because one would be motivated to increase the signal to noise ratio in the system of Inoue and Sugiura and achieve excellent signal detecting operation even at high velocity [col. 18, lines 42-52; Oohchida].

5. The aforementioned claim 23, recites the following elements, inter alia, disclosed in Sugiura;

each of the four spaced light receiving' elements is divided by the bisect line so that signals output from two light receiving areas of each spaced light receiving element are substantially equal in a condition that focused spots of the return light are received on said spaced light receiving elements as a minimum scattered circular image [col. 4, lines 37-59].

6. Claim 29-30 and 35-37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoue and Sugiura as applied to claim 21 above, and further in view of Ang et al., US. patent 6,057,953 (hereafter Ang).

As to claim 29 Inoue and Sugiura discloses all of the above elements, including a focus error detecting optical element. Combination does not specifically discloses what else the focus error detecting optical element includes such as cylindrical lenses in his system.

However, cylindrical lenses are well known in the art for a long time.

Also, Ang clearly discloses:

cylindrical lenses of one pair of the sections existing at diagonal positions in said first through fourth quadrants, and having central axes extending in a direction in which said division line extends; and

cylindrical lenses of the other pair of the sections existing at diagonal positions in said first through fourth quadrants, and having central axes extending in a direction at 90^0 to the direction in which said division line extends, wherein the central axes of cylindrical lenses of at least one pair of the sections existing at diagonal positions in said first through fourth quadrants are offset from said division line in parallel therewith [col. 2, line 57 to col. 3, line 36].

One of ordinary skill in the art at the time of invention would have realized that it would have been advantageous to have placed multiple lenses in close proximity or even as single unit in an multi-beam environment.

Therefore, it would have been obvious to have used a multiple cylindrical lenses in the system of Inoue and Sugiura as taught by Ang because one would be motivated to increase the efficiency of system in a multi-beam environment for more efficient processing of the beams [col. 1, lines 50-63; Ang].

Ang teaches plural cylindrical lenses. Ang does not teach that these lenses are a single lens with different sections. However compound lenses are well known in the art. It would have

been obvious to a person of ordinary skill at the time of the invention to have **combined** different cylindrical lenses into a single lens with four sections into the system of Inoue and Sugiura because doing so would make design more robust and easy to repair. As shown in "In re Larson **144 USPQ 347 (CCPA 1965)** to **make parts integral** is generally not given patentable weight or would have been obvious improvements.

7. The aforementioned claim 30, recites the following elements, inter alia, disclosed in Ang;

the offset central axes of the cylindrical lenses existing at diagonal positions in said first through fourth quadrants are offset from said division line on opposite sides to each other [col. 2, line 57 to col. 3, line 36].

8. The aforementioned claim 35, recites the following elements, inter alia, disclosed in Sugiura;

said spaced light receiving elements are arranged in parallel with one of said division lines of said focus error detecting optical element direction [col. 6, lines 28-50].

9. The aforementioned claim 36, recites the following elements, inter alia, disclosed in Inoue;

a diffraction grating [fig. 1, unit 4] disposed in said irradiation optical system [col. 10, lines 9-53]; and

a pair of sub-photodetectors disposed on one side of a column of said spaced light receiving elements for receiving a + primary diffraction sub-beam and a - primary diffraction sub-beam, respectively, wherein said optical pickup device conducts a tracking control based on a three-beam method [col. 10, lines 9-53].

10. The aforementioned claim 37, recites the following elements, inter alia, disclosed in Inoue;

a comparator/detector for detecting a difference in phase of respective sum signals output from two sets of said spaced light receiving elements existing at diagonal positions for independently receiving the return light passing through said four sections of first through fourth quadrants of said focus error detecting optical element, wherein said optical pickup device

conducts a tracking control based on a phase difference method [col. 11, line 58 to col. 12, line 26].

11. Applicant's arguments with respect to above new claims have been considered but are moot in view of the new grounds of rejection.

12. Applicant's amendment necessitated the new grounds of rejection presented in this office action. Accordingly, THIS ACTION IS MADE **FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contact Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

Gautam R. Patel
Primary Examiner
Group Art Unit 2655

February 5, 2005